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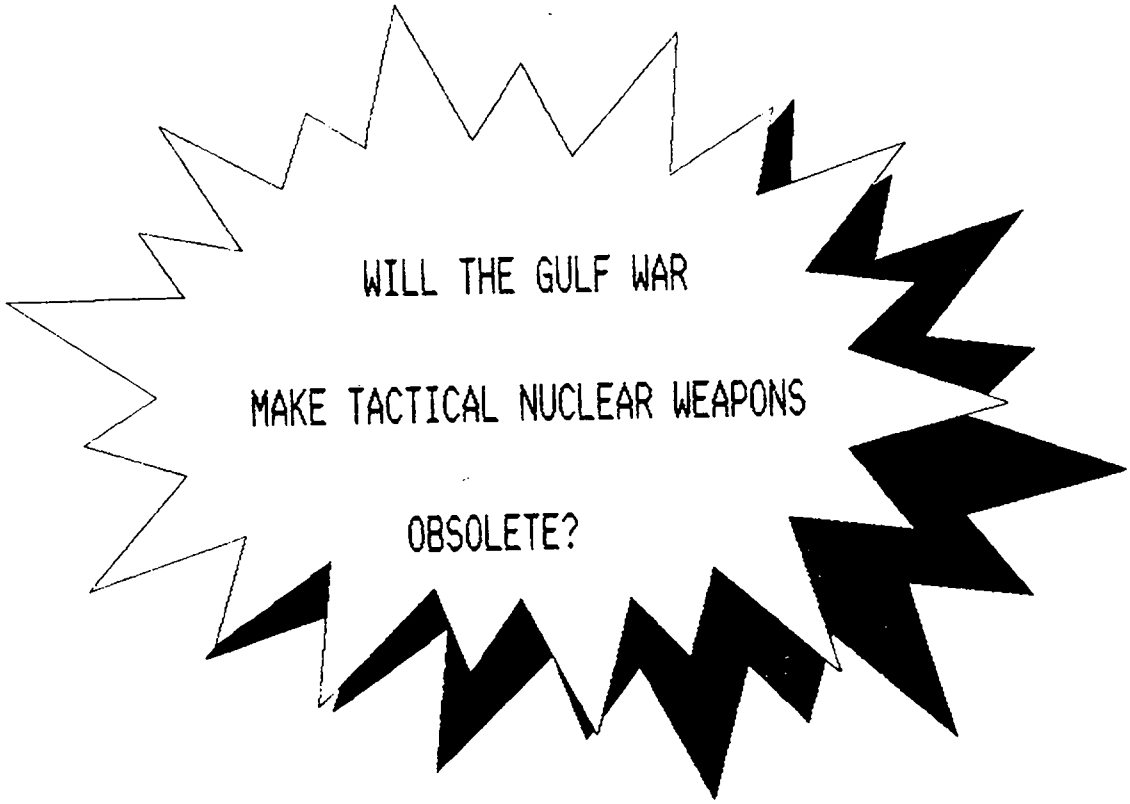

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WILL THE GULF WAR MAKE TACTICAL NUCLEAR WEAPONS OBSOLETE?

"The first essential of air power necessary for peace and security is the preeminence in research...We must remember at all times that the degree of national security rapidly declines when reliance is placed on the quantity of existing equipment instead of its quality."[1]

General H.H. Arnold, 18 Oct 1945

Introduction

Since the end of WWII and the advent of nuclear weapons, the United States has struggled with nuclear strategy. This struggle has resulted in heated debates among US military planners over the amount of emphasis to give to nuclear versus conventional force structure. Meanwhile the strategic thinkers, academics, and politicians have debated publicly and privately the efficacy of nuclear weapons and whether they are a purely political instrument, or just a bigger bomb and therefore simply a new, albeit more powerful, military tool.[2]

My thesis is that the United States has for the first time an opportunity to unilaterally eliminate further classes of nuclear

weapons based solely on national interest, versus relying on arms control. As the lessons of the Gulf War are distilled, the demonstrated success of high-tech conventional weapon systems used in that conflict will have profound effects on how the United States, her allies, and potential enemies view conventional airpower, effects not imagined before the war. This opportunity comes as a consequence of the overwhelming lethality the combination of stealth aircraft, precision guided munitions, and conventional cruise missiles brought to the battlefields of the Persian Gulf.

To develop a foundation for this thesis, I will briefly review the development of airpower and the doctrine of strategic bombardment as it was practiced during WWII, then address the impact of the atomic bomb on both US strategy and airpower doctrine from the late 1940's through the 1960's. Finally, I will quickly look at the evolution of airpower from the early 1970's until just before the Gulf War.

Airpower in WWII

During the early days of WWII, both the British and the United States attempted to carry out their pre-war airpower doctrine of strategic bombardment. In both Europe and the Pacific, strategic bombing campaigns were not as successful as originally hoped. The accuracy, and the damage done, was much lower than anticipated. The reasons were varied and are understood by most students of

military history, especially airpower history. Needless to say, it took considerably more resources (bombs, bombers, and escort fighters) to have the desired impact than many originally thought. This led to many heated arguments over the allocation of aircraft, since there were limited airpower resources in each theater. Aircraft were continuously fought over by all commanders at all levels from tactical, to operational, to theater -- they fought not only over numbers but over missions to be flown.[3]

As the war progressed, it became apparent that being successful in a strategic bombing campaign would require a large number of aircraft dropping large amounts of ordnance, often over a period of several days, on the same target. This, of course, became possible only during the last two years of WWII in Europe and the last year of the war in the Pacific when the massive bombings of major cities and industrial centers in both Germany and Japan began. The strategic results are still being debated, as well as the rationale for the ravaging fire bombings of some of the cities in both theaters. At the time, however, these large-scale bombings were viewed as necessary in order to "take the war to the heart of the enemy" ... to prosecute the war by attacking and destroying key centers of gravity in each nation, namely the infrastructure necessary to produce and sustain the German and Japanese military machines.[4] The concern expressed by many at the time, after the war, and to this day, dealt with not only the collateral damage done to the civilian population and non-military

infrastructure, but the cost in American aircraft, lives, and the supporting assets necessary to conduct such massive bombing campaigns.

Since the end of WWII any number of experts have challenged the effectiveness of strategic bombing using conventional weapons and its efficacy in any future conflict. The war in Korea and the extended Vietnam experience added fuel to the fire built by those who would claim that airpower cannot be decisive in conventional wars. Many of these experts even referred to the conclusions of the Strategic Bombing Survey of WWII, which supposedly points out the limits of airpower. However, when one attempts to balance the claim, against the survey's actual conclusion, one immediately begins to look for the hidden agenda. It is hard to assert that the survey points out limits when in its conclusion on the European Theater, the survey states, "Allied air power was decisive in the war in Western Europe....It's power and superiority made possible the success of the invasion."[5]

Even more telling is the conclusion concerning the Pacific Theater where the survey states, "Based on a detailed investigation of all the facts, and supported by the testimony of the surviving Japanese leaders involved, it is the Survey's opinion that certainly prior to 31 December 1945, and in all probability prior to 1 November 1945, Japan would have surrendered even if the atomic bombs had not been dropped, even if Russia had not entered the war,

and even if no invasion had been planned or contemplated."[6] Many of the opponents of the use of strategic bombardment did so out of concern for the moral dimensions as well as the extensive economic damage a long conventional bombing campaign could cause. The development of the atomic bomb threw the arguments into disarray as all parties began to reassess airpowers role in the atomic age.[7]

Early Impact of the Atomic Bomb

With the atom bomb came a whole new debate that centered not only on the "military effectiveness of" but the "political willingness to use" such a weapon of mass destruction. The point to keep in mind is that the atom bomb was developed precisely to cause massive destruction of the same magnitude as the bombings caused in Germany and Japan but at much less cost to the attacker. One or two aircraft and one or two atomic bombs could do as much damage as hundreds of aircraft with conventional bombs. Accuracy is not so important and the need for support assets is much less. In fact, there was a cascade of savings associated with the advent of atomic weapons. But, what about the damage? Were the collateral effects, such as the psychological impact of that much carnage, going to pass political muster in the US? Many will argue that it was at this point that deterrence became a growth industry in the US, as military planners, civilian strategists, and the political leadership tried to come to grips with the nuclear age.[8]

I will not attempt to discuss in detail the many debates that

occurred from the late 40's through the 60's. Let me just point out some of the major events*:

- The creation of an independent Air Force that saw its principal mission as long-range nuclear strike

- US exploitation of atomic power, to include long-range bombers, and the early beginnings of ballistic missiles

- The Korean War, where nuclear weapons were not used and limits were placed on conventional airpower's ability to carry out strategic bombing in support of the war, the first "limited" war of the nuclear age

- US fields two new jet powered strategic bombers, B-47s and B-52s, in great numbers

- By the early 1950s, Soviet nuclear programs progressing faster than anticipated

- A reduction in the size of US conventional military forces by the Eisenhower administration in favor of "less expensive" nuclear weapons and dependence on nuclear deterrence during the "early" Cold War years

- Soviets launch the Sputnik in 1957, and the US debates the "missile gap" in 1960

- US deploys new, more accurate and powerful land based ICBMs

- A "Colder" War era and debates over nuclear deterrence itself...arguments over massive retaliation, mutual assured destruction, and flexible response

- Some believe the Soviets reaching nuclear strategic parity with the US by the mid-1970s

- Vietnam, and again no nuclear weapons, but more questions about the effectiveness of nuclear deterrence, and again severe limits placed on the use of airpower

* For a detailed history of USAF thinking and actions, see Robert F. Futrell's excellent Ideas, Concepts, Doctrine: Basic Thinking in the USAF; Vol I, 1907-1960, Vol II, 1961-1984. AU Press, Maxwell AFB, AL, Dec 1989.

- In the mid to late 1970s US deploys new, more accurate sea-launched ballistic missile force and begins earnest development of cruise missiles

- Serious strategic nuclear arms control efforts continue between the US and the Soviets

Progress of Conventional Airpower during the Early Atomic Age

Throughout this period, the debate among nuclear strategy theorists in the West gradually began to coalesce into two schools of thought. One school believed that all nuclear weapons, strategic or tactical, were of no practical military value. They espoused the theory of nuclear deterrence for deterrence sake, and that due to their nature, nuclear weapons must be thought of only in political terms. The opposite school, while agreeing that strategic nuclear weapons required special handling, viewed nuclear weapons in general as merely another tool in the military's arsenal.[9] Each of the uniformed services, especially after Korea, accepted, at least tacitly, the latter view, and concentrated on nuclear weapons and nuclear war, as the Cold War and the theory of "containment" came to the forefront of political thought and guidance in both the US and US led alliances.

With the dominance of nuclear thinking spreading across both the political and military establishment in the US, the development of conventional weapons, particularly those capable of conducting a conventional air campaign, was almost nil. In fact, from the early 1950s to the mid-1960s, the vast majority of USAF and USN fighter and attack aircraft were designed as either nuclear weapons

carriers or as air defense aircraft to shoot down Soviet bombers carrying nuclear weapons.[10] US airpower was so limited in capability that when President Kennedy asked the Tactical Air Command commander during the Cuban Missile Crisis if his forces could bomb the Soviet missile sites in Cuba in one massive conventional strike to pre-empt, the commander replied he could not.[11] In 1962 the vast majority of US tactical aircraft were fairly new, but they were designed for nuclear strike or air defense missions. Conventional US airpower had, by all accounts, atrophied to the lowest point in its post-WWII history.[12] As a consequence, by the time Vietnam got into full swing, not only had the majority of aircraft been designed for non-conventional missions, they were delivering conventional bombs from WWII and Korean stockpiles with not much better accuracy than 20 years earlier.

Conventional Airpower and Vietnam

As a result, the conventional airpower arm of the US military was tested to the limit in Vietnam, both in terms of doctrine and in terms of hardware. In response to high loss rates during attempts to bomb strategic targets in the North and in an effort to improve accuracy to minimize collateral damage, the conventional airpower leaders in the USAF began an aggressive effort to not only bring on better designed tactical aircraft but, more importantly, better conventional ordnance, to make existing aircraft more effective. One early result was the introduction of the laser

guided bomb, whose spectacular results sold all those remaining in doubt in the US military on the value of precision guided munitions (PGM).[13]

A simple review of how targeteers planned missions in WWII in contrast to Vietnam before PGMs and Vietnam after PGMs produced these startling statistics:[14]

- In WWII when planning an attack on a point target with the objective being to destroy a target (for example a river bridge, a factory's milling machines, or oil refinery's cracking towers) the Army Air Forces would assign literally hundreds of bombers with more hundreds of fighter escorts to support them.

- In Vietnam before PGMs, against a similar target, the USAF or USN would task dozens of fighter bombers, with dozens more escort, suppression, and other support aircraft.

- In Vietnam after PGMs, against the same type target, the planners would send only one flight of four aircraft with maybe a half dozen support aircraft.

Conventional Airpower since Vietnam

This short historical look at conventional airpower provides us with the hindsight needed to understand what the US military brought to the war in the Gulf and why. Beginning shortly after Vietnam, the USAF, in particular, began a concerted effort to capitalize on the breakthrough in munitions based upon computer and laser technology, as well as miniature television or IR guidance systems. The proof of the success of this effort is that instead of sending hundreds or even dozens of aircraft, that with "dumb

bombs" would have caused untold collateral damage, one can, with stealth technology and PGMs, send one aircraft, hit the selected target with pinpoint accuracy, and cause little if any collateral damage.

Now, if we have the capability to strike with virtual impunity against hardened targets, with pinpoint accuracy, why do we need to have tactical nuclear weapons? I believe that this question needs to be debated anew. We have debated for years the utility of nuclear weapons -- based primarily on political, moral, ethical, and psychological reasons. Within the military, tactical nuclear weapons were a relatively inexpensive ordnance that could be delivered without pinpoint accuracy and which would cause considerable damage...both to the intended target, such as a command and control center adjacent to an airfield, and anything else within some definable range, e.g. unsheltered aircraft, vehicles, personnel in the open. With the deadly accuracy demonstrated by conventional cruise missiles and of stealth aircraft with PGMs, I again ask the question, "Why does the US need tactical nuclear weapons?" I submit that without using any nuclear weapons, the tactical air forces of the US conducted a strategic bombing campaign against Iraq that in short order did as much damage to the enemy as any similar nuclear exchange with tactical nuclear weapons could have accomplished. And, the Air Force did it with much less resultant collateral damage, much less long term environmental impact, and certainly much less universal

condemnation than would have resulted from letting the nuclear genie out of the bottle.

There are numerous examples of how conventional PGMs in the Gulf War effectively destroyed what many previously thought were exclusively tactical nuclear targets, due to either the target hardness or difficulty of destroying with conventional weapon accuracy. Examples include, hardened aircraft shelters, which in the Gulf were an early victim of the accuracy and destructive capacity of conventional PGMs, which now challenges the need for tactical nuclear weapons. Likewise, the ability of stealthy aircraft to destroy high rise buildings in the center of a modern city, with practically no collateral damage, demonstrated the deadly combination of stealth and precision accuracy. Against this same target with a tactical nuclear weapon, the collateral damage to the surrounding city would have been tremendous. Likewise, the number of non-precision conventional bombs required would have required dozens of aircraft sorties, with the potential of lost aircraft and pilots. This demonstrated performance in the Gulf can be easily transferred to similar situations where the specter of tactical nuclear weapons have for decades hung over our alliances in Asia and Europe.

The impact potentially reaches into the depths of the escalation debates that have raged for years in NATO. The lessons of the Gulf War may result in another rung in the escalation

ladder, to give even newer flexibility to NATO response options before having to address the nuclear question. The impact on deterrence in general and rapid response to a crisis in particular makes it all the more important that the debate be joined now on the future development of both stealth and PGMS, not only from a war-planning perspective, but from force planning and procurement perspectives as well.

Conclusion

In my view, the case is compelling that tactical nuclear weapons have been made militarily obsolete by the introduction of the deadly combination of accurate conventional munitions, stealth aircraft and low observable conventional cruise missiles. I submit that the rationale for creating tactical nuclear weapons in the first place no longer exists.

Forty years ago tactical nuclear weapons were a less expensive and more "accurate" method of hitting hard targets when compared to the inaccurate and comparatively expensive conventional airpower forces that existed then. That rationale no longer exists. I go back to General Arnold's statement that introduced this article. Perhaps the quality of conventional airpower will now surpass the quantitative destruction potential of tactical nuclear weapons as airpower technology continues to progress. While the debate over the deterrent value of nuclear weapons will never end, particularly with regard to strategic nuclear systems, I believe that we need a

new public debate over the utility of tactical nuclear weapons in light of the spectacular conventional success in the Gulf War.

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